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and the statement "Mind exists, wherever consciousness exists";²¹ Thorndike defines dynamic, or functional, psychology as "the mind in action";²² Angell refers to consciousness as an "agent in the furtherance of the life activities of the organism,"²³ and Judd (as will later appear) explicitly conceives psychology as science of self.

There is, in truth, no way of combating this conclusion, except by arguing that a study of the actor or functioner, however necessarily implied by functional psychology, would be philosophical, not scientific, in character. But at least two distinctly scientific conceptions of the "mental functioner" are held by avowed functional psychologists. The first of these is the conception of the psychophysical organism, the complex of mind and body. Psychology, from this standpoint, is the study of the mental processes or functions of a being at once mental and physical. So far as I know, no one disputes that such a psychophysical organism is a proper object of scientific study. A second scientific conception of the conscious functioner, or actor, is as a self related to a physical organism, yet not constituting with it a single reality.

In the next paper of this series I shall try to elucidate and to compare these conceptions and to defend the scientific character of the second. The aim of this section has been to show that psychology, in so far as it is the science of mental function, is necessarily and more fundamentally the science of the mental functioner.

MARY WHITON CALKINS.

WELLESLEY COLLEGE.

REALISM AND THE PHYSICAL WORLD

OPPONENTS of realism have for centuries urged that the subjectivity of that of which we are aware in sense experience is proved by the fact that our *sensa* vary according to the conditions of the physiological organism. These *sensa* can not be qualities of independent objects, it is argued, unless the independent objects are supposed to change with every change in our experience of them, or unless they be considered as the hospitable asylums of all contradictions that are banished from the domain of any single experi-

²¹ "Analytic Psychology," Chap. I., § 1, p. 1. Stout, however, does not, so far as I know, use the expression "functional psychology" in describing his system.

²² "Elements of Psychology," p. 184 and note.

²³ Decennial Publications of the University of Chicago, First Series, III, Part II., p. 64. Cf. the reference of Professor Mead to the "I" or "subject" in "The Definition of the Psychical," *ibid.*, Part II., pp. 104 ff. Cf., also, the reference to "the self" in Dr. F. Arnold's analysis of interest, *Psychological Bulletin*, Vol. II., p. 364³.

ence. But if objects and experience keep step with each other in their alterations, and yet the objects are independent of the experience, it seems as if only a preestablished harmony could account for such an amiable relation; and even then only an obstinate tendency to see double could keep objects and experience apart. If, however, objects remain unaffected by the mutations in our experience and yet this experience always in all its changes remains true to the objects, then the objects must possess all at once the qualities which in our experience appear *seriatim temporatimque*. But this would mean that objects have saddled upon them contradictions that their backs can not bear unless their vertebration defies the principles that Aristotle and F. H. Bradley have laid down for their anatomy. In one form or another this kind of argument has been used against the realist almost from the very beginning of philosophy among the Greeks up to the present day.

One of the most recent ways of putting this difficulty is this: "Until some third alternative is demonstrated, the alternative between the numerical identity and the numerical difference of quality perceived and actual quality must be presumed to be a genuine alternative." But "if there is numerical identity between the quality of the object and the quality perceived, we are obliged to say that the object possesses simultaneously all the qualities revealed in the different perceptions. Or, more specifically, we must be prepared to assert that an object may be both red and gray, both moving and stationary, both square and oblong, both heavy and light; that, in short, our common notions of incompatibility are in the main incorrect."¹

This argument assumes that either *all* "qualities perceived" must be, or else *none* can be, numerically identical with "actual qualities." There is surely a "third possibility" here, and one has merely to point to the so-called square of opposition for its "demonstration." Why may it not be that *some* of the "qualities perceived" are numerically identical with and *some* numerically different from the "actual qualities"?² The realist who adopts this

¹ Professor Bode, in this JOURNAL, Vol. IV., pp. 261 and 263. Professor Bode argues from the commonly accepted point of view that subjective objects are made of conscious stuff; and if such an assumption were correct, his dilemma would indeed be embarrassing to the realist.

² For the present I use the terminology of the critic; I do not consider it satisfactory, however, for it is misleading. Everything of which we are aware is actual in a very fundamental sense. The realist does not deny the actuality or reality of any object perceived; he merely asserts, dogmatically or tentatively, the *independence* of some of these objects; and by this, let me repeat, he means that some of these objects can exist and do exist when there is no awareness of them. Of course it must be admitted here that not all realists maintain

third course may indeed be reasonably called on to furnish a criterion for distinguishing between the two classes of qualities perceived, but he has escaped the necessity of choosing one of the horns of the dilemma offered him for his goring. Let us see now whether such criteria can be found.

They can not be found in the *qualia* as they immediately present themselves to awareness. In hallucination and in dream the *sensa* are qualitatively similar to the *sensa* which the realist takes to be "independent." Hence it is a mistake to suppose that we have some sort of indefinable "intuition" which guarantees the independence of certain objects. *Prima facie* all objects stand on the same footing. I think that this statement can be extended as far as Professor James extends it³ and made to include pleasure and pain, hopes, fears, and whatever else in psychology or in popular thought is treated as if "mental" in nature. Let us go farther still, and say—also with Professor James's concurrence, I take it—that "relations" are not mental in their nature. They show no more of the ear-marks of consciousness in their make-up than anything which the most materialistic thinker would set up as the genuine reality. Likeness,

that some of *these* objects exist when they are not objects of consciousness. The most general definition of realism seems to be that it is the doctrine that maintains the possibility of existence of some sort when there is no awareness. I use the term in the rest of this paper of the kind of realism which I am trying to study out to its consequences.

³"The Place of Affective Facts in a World of Pure Experience," in this JOURNAL, Vol. II., pp. 286-287: "If 'physical' and 'mental' meant two different kinds of intrinsic nature, immediately, intuitively, and infallibly discernible, and each fixed forever in whatever bit of experience it qualified, one does not see how there could ever have arisen any room for doubt or ambiguity. But if, on the contrary, these words are words of sorting, ambiguity is natural." In this article Professor James has performed a great service in abolishing the wall of partition, in the shape of intuitive certitude, that was supposed to separate unmistakably the "subjective" from the "objective." If he is correct, and I believe that he is, then there is no object of consciousness, in the usual sense of the word object, which is "made, and felt to be made, of consciousness exclusively" (*ibid.*, p. 281). Not only is the stuff of which dreams are made of the same sort as that of which independent things are made, such as the stuff of houses and trees and stars and flowers, but even "our pleasures and pains, our loves and fears and angers" are not made of mind-stuff, nor are they states of consciousness. I differ from Professor James in this matter only in thinking that I can discover in experience something else than all these things, something which is made of conscious stuff, if you will apply to it such a gross term. The term is misleading and I use it here only to accentuate a fundamental difference in our findings of fact. What consciousness is made of is consciousness or, in other words, awareness—which is not a very informing sentence, but is meant in the same sense as when one should say that red is just made of red, denying that you can probe deeper into the essence of it: it is to be taken at its face value.

succession, extension are not "tainted" with consciousness in the way of either external smear or intrinsic ingredient. They are just what we are aware of them as being—that is, they are just likeness, succession, extension. So far would I go with the most thorough-going immediatist.

In a sense, therefore, I think that there is much point to the metaphor which has recently been applied to consciousness: consciousness is perfectly "diaphanous," "transparent." However, when these terms are applied to consciousness in its relation to its objects, we must be careful that we do not consider these objects as anything else than what they purport to be and are in this immediacy of presence to awareness. When we begin to speak of "independent" objects we have got beyond this immediacy of presence, and reach a domain in which, therefore, diaphaneity and transparency may be entirely misleading terms to apply to consciousness. For by an "independent" object the realist⁴ means an object that exists when there is no awareness of it. It may indeed be the same object as that of which we have been aware, or it may have been the same object as that of which we are now aware, or again there may be more to the object now than we are aware of now. In the last contingency, what of more there is to it is, of course, really independent of the awareness, while what there is to it, of which we are aware, is not independent of the awareness, in the sense in which the realist uses the term independent; for that part of the object exists at the same time with the awareness and is the immediate object of the awareness. When, therefore, the realist speaks of being aware of independent objects, he means that he is aware of objects whose existence extends either backward or forward in time beyond the span during which they are immediately present to consciousness. If he ever speaks of the qualities of which he is aware as *now* being independent of the awareness, he begs to be understood as meaning by "independent" something different from what he means by independence when he speaks of the independence of the qualities of which he is not aware. He means that in becoming objects of awareness they have not undergone any qualitative change from what they were when not objects of awareness; or, at least, that if any change has occurred it is not to be set down to their entrance into consciousness. For the realist does not hold to the changelessness of the real, and changes explicable by reference to other conditions may occur in an object just at the time when it becomes known.

Now we are in a position to pursue our search for the criteria for

⁴ Again I call attention to the fact that I mean by this term the advocate of the kind of realism I am studying here. I do not mean to impute the views I am discussing to any person who may properly or improperly call himself a realist.

the discrimination of independent objects from those which are not independent. But we have not far to seek. The word is nigh us, even in our mouths and in our hearts—yea, in the hearts of idealists themselves when they leave their studies and their lecture platforms and get in touch with the problems of practical life.⁵ All that is necessary, therefore, is to describe what we actually do when we all seek to arrive at conviction as to the “independence” of any of the qualities or complexes of qualities of which we are aware. This has been done so frequently and so well that we may be very brief here.

1. When even an idealist attempts to collect insurance on a summer cottage, which he believes to have been destroyed by fire in his absence, he does not necessarily go about hunting human witnesses who actually saw the fire. If they are not forthcoming he does not despair, but neither does he appeal to the perfect witness of all-judging Jove, invoking him by the less poetical and anthropomorphic style of “The Absolute.” Nor, again, does he ask the assessors to award his claim because they have prerational instincts which prompt them to believe in psyches who might under unreal conditions have had sensations of a fire, while he admits that there has been no actual fire. On the contrary he is likely, if he is wise, to take the assessors to the ruins. If they do not see the ruins which he points out to them, he gets off easily if he merely fails to realize on his policy. The first step, then, which any sane man takes to establish the independent reality of anything is to get some *sensa* which are not the monopoly of any single empirical awareness. A single empirical awareness supplemented by the belief that an absolute awareness would corroborate if it could be reached will hardly serve in such an emergency. If the *sensa* are and remain the exclusive possession of the insured, in spite of any efforts he makes to get them presented to the assessors, their objectivity or independence can be maintained only as the substance of things hoped for.⁶ But

⁵ In fact what differentiates the typical idealist of the present day from the realist is not any difference in the use of these criteria, nor any difference as to the independence of objects as regards any empirically verifiable awareness, but merely the fact that having convinced himself, by the use of these criteria, that there are objects independent of any empirically ascertainable awareness, he proceeds to supply to these objects an awareness that is not empirically verifiable and thus he cancels their independence. He would not need such a supposititious absolute or eternal consciousness or experience if he had not already convinced himself that there are objects independent of temporally limited and otherwise finite consciousnesses such as ours are. He bases his belief in the metempirical consciousness on the acknowledged fact of real “independence” of empirical awareness. He can not therefore with grace criticize us for going at least a mile with him on his journey toward his eternal home. His only quarrel must be that we do not go with him twain.

⁶ This failure does not disprove independence, but it becomes a very heavy onus on the man who keeps making the assertion of independence.

if he can get partners in his experience, he can begin to do business with independent reality. But, of course, it is only a beginning in any case; and even the propriety of beginning now may be questioned, for the test of "co-consciousness" may be challenged by those who do not share in the co-consciousness. Should this challenge become insistent the test needs supplementation by another test; for common hallucinations and common illusions are by no means frequent.

2. The test by which hallucinations and illusions are differentiated from the perception of independent reality is what Berkeley called "coherence," which is also the test whereby we are justified in declining to set down what we experience in dreams as independently real. The full treatment of this test is not possible here, for it would involve a very long discussion of many matters and would thus take us beyond the limits of a single paper. Especially is this true of illusions as distinguished from dreams and hallucinations. Hence I will omit any further reference to illusions. Hallucinations are distinguished from "normal" experience by the fact, for instance, that the hallucinated voice of a friend is not related to a visual *sensum* of that friend as voice is related to vision ordinarily; and an hallucinated visual *sensum* is not related to tactual *sensa* as is ordinarily the case. There is not the usual "coherence."

I had thought that the test of coherence as applied to dreams is generally accepted till I saw it questioned by Mr. F. C. S. Schiller, who brings a strange objection to it.⁷ "The consciousness which condemns the dream experience is no longer the consciousness which experienced it. . . . For comparison therefore with the intelligible sequence of successive dreams, we should require an intelligible sequence *in successive lives* to make the parallel complete." Now if we had "intelligible sequence of successive dreams" as persistently as we have intelligible sequence in our waking experiences day by day, we might indeed have a problem on our hands for our waking philosophy. But when it is urged that the incoherence of dreams is not usually felt when dreaming, the reply must be made that the dreamer may, if he pleases and if he can, construct a system of philosophy which shall give realistic value to his dream *sensa*: the waking realist will promise not to follow him voluntarily into his dreams and try to prove his philosophy wrong. The realist philosophizes for men awake, and if he takes dream experiences into account, it is only because they are a part of the data which are present to him in the way of memory when he is awake, in just the same way in which his yesterday's experiences are present to him now. How this waking life's experiences and its remembered

⁷ "Humanism: Philosophical Essays," pp. 113, 114, foot-note.

dreams will be judged by some one when in the sleep of death he dreams out a philosophy, the realist prefers to leave to those who pretend to know what such dreams will be. It is a queer sort of pragmatism which tries to negative actual pragmatic tests pragmatically made in this life by bringing up the bogey of what may become of these tests when unknown difficulties may arise in an unknown life. Is there no pragmatic value in the suggestion that sufficient unto the day is the evil thereof?

3. The two preceding tests will give our idealistic friend and his assessors a starting-point of a common experience with "coherent" elements in it, which are thereby differentiated from elements in the experiences of the parties involved, that might be exclusive or incoherent. It is the coherence of these common elements of the experiences of all that forms the point of departure for a realistic supplementation of these experiences. The impulse on the part of the men concerned to get a *more* coherent world than their fragmentary experiences present to them prompts them to take the remaining steps towards realism. They proceed to make an induction. There is the debris; what does it mean? That kind of debris in the past of all the persons present has been frequently experienced in sequence upon *sensa* which we call fire. It is therefore assumed that the debris in this case has followed a fire. It is for damage done by this assumed fire that the insured wishes to get indemnity. As that fire was the object of no ascertainable experience, a place is made for the fire by postulating a world of "independent" objects, within which the fire could have occurred without waiting for the favor of being witnessed. It is this fire which the debris means.*

* It might be well to pause here for a moment to remark that the kind of inductive reasoning mentioned here is used by every one in such a case as this and that when a result is obtained that result is accepted as representing genuine "independent" reality, at least till a *secondary* induction of the same general character is made to offset it. Thus some persons, unwilling to accept a complete independence of such reality, proceed to make a further induction from another set of facts, and conclude that there must have been *some* awareness of the reality at the time at which the reality existed. Others *cancel* the result of the primary induction by a secondary induction; they accept the fact that there was no awareness of the reality at the time at which it was by the first induction concluded to exist; but being unable to distinguish between object and awareness, they make the induction that no one else can do so; then applying the maxim that what can not be distinguished can not be separated in time, they proceed to deny the prior existence of the reality and make it merely a conceptual possibility of a perception which was not perceived. There are still other ways of discrediting the results of the primary induction, which bear witness to the versatility and ingenuity and sometimes to the ingenuousness of those who have invented them; but they all proceed by the principle of induction, similar in kind to that which realism and common sense use to establish the independence of certain objects experienced. These secondary inductions constitute the so-called arguments against realism.

4. Still another criterion may be mentioned, which perhaps is not used so much as the others, but which seems to have some pertinence here. It is the principle that differences in one class of *sensa* point to independent differences in another class, when there is question as to the independent reality of the latter, and when this question is based on the fact that the latter *sensa* are given in different qualities to different awarenesses. Perhaps the principle might be called that of the irradiation of differences. Its meaning can be made clearer by taking a concrete case in which it may be applied. I see a color red and another man sees it gray. Which is the real color? That is, which is the color the object presumably has when neither of us sees it? Both my color-blind friend and I find that behind a pane of glass which he sees as gray and I see as red we can develop photographs; while behind another pane which we both see as gray we can not develop them. My experience of color difference in the two cases seems to be corroborated by our joint experience of difference in the behavior of the two glasses when white light is passed through them. Again, the angle of refraction of two rays of light which I see as one red and one gray and my friend sees as both gray are experienced by both of us as different. The gray color, therefore, in the one case is set down as "subjective," that is as existing only when my friend and such as he see it. The red color is set down as "objective," that is, as existing when neither is aware of it, because the supposition of its real color difference from what we both see as gray comports with its different *behavior* even when neither of us is present.

In any case the belief in the "objectivity" is merely a tentative belief, a working hypothesis. It is of course possible that both colors, and all colors in fact, are "subjective." But Bradley has very convincingly shown that "bare possibilities" are not a safe foundation on which to build a doubt. Reasonable doubt needs "motivated possibilities," and the realist contends that the motives that have been adduced for the possibility of the subjectivity of color are inadequate. But the phrase "working hypothesis" may well give us pause, as capable of being construed to be a confession of an implied idealism. But I do not believe that such a construction is admissible. The realist is not trying to make things tentatively independent; he is merely trying to give reasons for the faith that is in him that they are independent. They either are or are not independent; his belief does not alter the facts, Professor Royce's dialectic to the contrary notwithstanding. Except in the sense in which we may now be directly aware of things as they existed when they set the intermediating agencies at work which result in the

brain reaction correlated with the awareness of them,⁹ the very nature of the case makes it impossible for the realist to verify his belief by appeal to immediate experience of independence; for if he were to experience the things whose independence he asserts, and experience them *at the time* at which they existed independently, this very experiencing would make them cease to be independent in the sense in which he is contending for independence, that is, it would make them exist *at the time at which there is awareness*. The realist, therefore, has no illusions on this point. He is not trying to see directly the back of his head. He knows he can not do it, but he believes, however, that what he can not see he can believe in with good reasons. He can live *as* seeing that which is invisible; in his realism he walks by faith and not by sight.

It will have been noted long ere this that such a realism is pragmatic in a very emphatic sense. The criteria used for distinguishing independent reality from reality which is not independent are *pragmatic* criteria. Again, it will have been seen that "*immediate experience*" furnishes the *qualia* from among which the pragmatic criteria help us pick out some which can be consistently assumed to have independent reality. Thus this independent realism, if I may so call it, *combines pragmatism with immediatism*. In this respect it agrees with the views of Professors James and Dewey, to whom, by the way, I wish to say that I owe more than my recent criticisms of them might lead one to suppose. But this realism can not remain satisfied with the statement that "everything is what it is immediately experienced as being." This statement, while true so far as it goes, is only the beginning of whatever wisdom there may be in realism. In addition to the things that are, we recognize also things that have been and things that shall be. Of these realism can not consistently say that, *so far as they were or will be independent*, they were or will be whatever they are at any time experienced as having been or going to be. For there are many "immediate experiences" of things past and things to come which contradict each other, and besides there are many such experiences which are not pragmatically confirmed: indeed, there are many "immediate experiences" which are pragmatically invalidated. For instance, the "immediate experience" which most geologists till recently had of the interior of the earth as molten seems to be pragmatically negated by what on the one hand we know of the transmission of undulations through solid and liquid media, and by what on the other hand we know of the transmission of earth tremors through the interior of the earth. This illustrates the fact that the qualities which, in our theories of the nature of independent reality, we from

⁹ See this JOURNAL, Vol. IV., pp. 599 ff.

time to time refer to such reality, can not all be rightly accepted as actually independent.

We therefore combine immediatism and pragmatism by maintaining that immediate experience furnishes us with all sorts of *qualia*, and that of these *qualia* only some may be properly assumed to have independent reality. Realism then postulates that *everything is or was or will be what it is ever immediately experienced as being or having been or going to be, when this experience is pragmatically confirmed, and when all such immediate experiences have been so adjusted to each other that the independent realities we assume on the basis of these experiences shall not have at the same time contradictory qualities*. The immediately experienced *qualia* which are ruled out by the pragmatic criteria are then not regarded as independently real, and are called subjective.

The system of independent realities, connected together in such ways as are shown in the connections of objects of immediate experience, and consisting of such *qualia* as we are pragmatically justified in regarding as independently existing, constitutes so much of the *physical world* as is known to us. This world is constantly changing and more of it is every day coming to be known by us. From the fact that our knowledge of it has grown in the past we infer that our knowledge will grow in the future, and that therefore our present knowledge does not compass it in its totality, if totality it has. But as the only theoretical reason we have for assuming our present ignorance of any part of this physical world is that every day we are coming to *know* what we were formerly ignorant of, and as the only practical reason we have for this assumption is that what we know of the physical world does not form a completely coherent whole and that we therefore need more *known* reality to make that world coherent, it is illogical and impractical to assume that what lies beyond our present knowledge is in its nature *unknowable*. Its knowableness is at the very bottom of our assumption of it at all. In fine, there is no reason to suppose that there is anything real which is of such an ultimately cryptic sort that it could not become under any conceivable circumstances an object of awareness.

UNIVERSITY OF WISCONSIN.

EVANDER BRADLEY MCGILVARY.

REVIEWS AND ABSTRACTS OF LITERATURE

Die Melancholie; ein Zustandsbild des manisch-depressiven Irreseins.
 GEORGES L. DREYFUS. Mit einem Vorwort von Hofrat Professor Dr. Emil Kraepelin. Mit 2 Kurven im Text. Jena: Gustav Fischer. 1907. Pp. vi + 329.

This is an important contribution to psychiatric method. What the